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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,591	03/05/2005	Fumio Sakiya	121965	8555

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EXAMINER	
RUDAWITZ, JOSHUA I	
ART UNIT	**PAPER NUMBER**
3652	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,591	SAKIYA, FUMIO	
	Examiner	Art Unit	
	Joshua I. Rudawitz	3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/03/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and contain many grammatical and idiomatic errors.

3. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. With regards to claim 1, it is unclear as to where the applicant is claiming the subcombination of the transfer device, or the combination of a clean room and a transfer device. If the applicant is claiming the subcombination of the transfer device, additional structure is needed; if not, then, the preamble needs to be amended to positively set forth the device and the clean room.

5. With regards to claim 6, the claim is not clearly stated and the examiner offers the following as a clarification. "...wherein an open space in the first floor is not less than 5% and not more than 50% of the total area of the first floor, and an open space in the casing bottom part is not less than 5% and not more than 50% of the total area of the casing bottom part."

6. With regards to claim 7, the applicant is simply claiming a function without providing addition structure to provide the function. The examiner notes that it

appears that claim 7 should depend on claim 6 in order to provide the essential structure. Additionally, the examiner is not clear as to whether the internal pressure is absolute pressure or gauge pressure.

7. With regards to claim 10, the examiner is unclear how the opening part is able to open to "at least one of the first chamber and second chamber" and assumes the work "and" to mean "or".

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 6, 7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (U.S. Patent Application Publication No. 2002/0068524).

9.1 With regards to claim 1:

9.1.a Nakagawa discloses a clean room 1 (Figure 1) and a transfer device 13 (Figure 1) for sheet-like electronic components, i.e. wafers, a fan/filter unit, a casing having a first floor that can have air pass through that defines two chambers, and a bottom of the casing that allows air through.

9.1.b Nakagawa does not teach the filter removes at least 99.999% of particles 0.1μm or larger.

9.1.c Nakagawa does, however teach that the filters can be stacked to increase the amount of particles removed to 99%, and therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to either change the type of filter or include additional filters to achieve the desired level of cleanliness because different manufacturing practices require different levels of cleanliness.

9.2 With regards to claim 6:

9.2.a Nakagawa discloses openings, within the specified range, in the first floor 7 (Figure 1); and Nakagawa discloses opening, within the specified range in the casing bottom 8 (Figure 1) which piping 39 (Figure 1) passes through.

9.3 With regards to claim 7:

9.3.a Nakagawa discloses that the pressure will be greater than that of the second chamber (Pg. 6, [0068]); however, Nakagawa does not disclose the internal pressure being above 0.1 Pa.

9.3.b It would have been obvious to a person having ordinary skill in the art, at the time of invention, to adjust the pressure for the requirements of the process being done on the wafer through an adjustment on the fan/filter unit.

9.4 With regards to claim 9:

9.4.a Nakagawa does not disclosed the speed of the fan, however this is within the abilities of a person who is skilled in the art to adjust based on the filter type and the production-process taking place in the clean room.

9.4.b Therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to have the fan speed be within the range of 0.1 m/sec to 0.65 m/.sec.

9.5 With regards to claim 11,

9.5.a Nakagawa discloses a sheet-like electronic product manufacturing system (Pg. 1, [0006]).

10. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (U.S. Patent Application Publication No. 2002/0068524) in view of Terou et al. (Japanese Patent No. 2000-357641).

10.1 With regards to claim 2:

10.1.a Nakagawa discloses all that is found in claim 1, however fails to teach a door and door passage.

10.1.b Terou et al. (Terou) teaches a door 36 (Figure 2) and a door passage 60 (Figure 2) through which clean air flows 44 (Figure 2) (Abstract) so that the air coming through the door does not mix within clean room. Therefore it would have been obvious to a person having ordinary skill in the art, at the time of invention, to include the door and door passage of Terou in the transfer device of Nakagawa.

10.2 With regards to claim 3:

10.2.a Nakagawa in view of Terou fails to teach the dimensions claimed, however, dimensioning is a part of the engineering process, and it would have been obvious to a person having ordinary skill in the art, at the time of invention to choose any dimensions as a matter of an engineer design choice.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (U.S. Patent Application Publication No. 2002/0068524) in view of Ogawa et al. (U.S. Patent No. 5,975,834).

11.1 Nakagawa discloses a conveying robot, however fails to teach a dust prevention seal and a vent hole.

11.2 Ogawa et al. (Ogawa) teaches using a magnetic fluid as a dust prevention seal in order to keep the clean room free of additional contaminates from moving mechanical part. Ogawa additionally teaches the robot moving vertically, and therefore as the robot moves either up or down, it is inherent that there is an air, or vent, hole in the bottom, outside the clean room, so as not to compromise the seal with undo pressure from compression of trapped air. Therefore it would have been obvious to a person having ordinary skill in the art, at the time of invention, to include Ogawa's magnet seal in order to keep the clean room free of additional contaminates from moving mechanical part, and the vent hole so as not to compromise the seal with undo pressure from compression of trapped air.

12. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (U.S. Patent Application Publication No. 2002/0068524) in view of Rapisarda et al. (U.S. Patent Application Publication No. 2002/0108334).

12.1 With regards to claim 5:

12.1.a Nakagawa discloses a casing, however fails to teach second floor in the vicinity of the base.

12.1.b Rapisarda et al. (Rapisarda) teaches making the floor out of panels 50 (Figure 1), thereby including a second floor, in order to give easy access to the area below. Therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to have the second floor be a panel of the base, in order to give easy access to the area below.

12.2 With regards to claim 8:

12.2.a Nakagawa fails to teach the number of times of ventilation.

12.2.b Rapisarda teaches the number of times of ventilation as 450 per hour, or 7.5 per minute in order to follow the requirement for Class 1 clean rooms. Therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to have the number of times of ventilation follow Rapisarda's teaching of 7.5 per minute in order to follow the requirement for Class 1 clean rooms.

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (U.S. Patent Application Publication No. 2002/0068524) in view of

Terou et al. (Japanese Patent No. 2000-357641) further in view of Rapisarda et al. (U.S. Patent Application Publication No. 2002/0108334).

13.1 Nakagawa teaches all that is disclosed in claim 1 and an internal pressure in the first chamber greater than 0.1 Pa.

13.2 Nakagawa fails to teach an opening on one wall that is less than 20% of the total wall area; and additionally Nakagawa fails to teach the ventilation times.

13.3 Terou teaches an opening on one wall to allow wafers to enter the clean room, and the opening is less than 20% of the total wall area to prevent an excess of air entering the room. Therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to include Terou's opening to allow wafers to enter the clean room, and the opening is less than 20% of the total wall area to prevent an excess of air entering the room.

13.4 Rapisarda teaches the number of times of ventilation as 450 per hour, or 7.5 per minute in order to follow the requirement for Class 1 clean rooms. Therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to have the number of times of ventilation follow Rapisarda's teaching of 7.5 per minute in order to follow the requirement for Class 1 clean rooms.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua I. Rudawitz whose telephone number is 571-272-7856. The examiner can normally be reached on Monday - Friday, 7:30 A.M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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